WHAT IS CLAIMED IS:

1. An engine starting device for rotating a crankshaft of an engine to start the engine, comprising:

a self-starting motor drivable to rotate the crankshaft of the engine; and

a one-way clutch disposed between said self-starting motor and the crankshaft of the engine and operable to transmit rotary motion of said self-starting motor to the crankshaft, said one-way clutch including

an inner race operatively connected to an output shaft of said self-starting motor for co-rotation therewith,

an outer race concentric to said inner race and operatively connected to the crankshaft,

a plurality of ratchet pawls pivotally connected to said inner race for pivotal movement within an annular space defined between said inner race and said outer race, and

a plurality of springs acting between said inner race and said ratchet pawls and urging said ratchet pawls against said inner race to thereby keep said ratchet pawls out of contact with said outer race,

wherein when the speed of rotation of said inner race while being rotated by said self-starting motor goes up to a predetermined value, said ratchet pawls are caused to swing in a radial outward direction under the action of centrifugal force against the force of said springs and become engaged by said outer race to thereby engage said one-way clutch.

2. An engine starting device according to claim 1, wherein said outer race has a plurality of ratchet teeth formed on an inner circumferential surface of said outer race, said ratchet teeth being lockingly engageable with respective free ends of said ratchet pawls.

3. An engine starting device according to claim 2, wherein the number of said ratchet teeth is at least equal to the number of said ratchet pawls.

4. An engine starting device according to claim 2, wherein the number of said ratchet teeth is an integral multiple of the number of said ratchet pawls.

5. An engine starting device according to claim 1, wherein each of said ratchet pawls includes a pivot shaft rotatably supported at opposite ends thereof to said inner race.

6. An engine starting device according to claim 5, wherein said inner race has a plurality of axial holes formed therein and spaced at equal circumferential intervals about the center of said inner race, each of said axial holes rotatably receiving therein one of said opposite ends of said pivot shaft, and wherein said one-way clutch further includes a support plate attached to said inner race, said support plate having a plurality of holes axially aligned with said axial holes in said inner race, each of said holes in said support

plate rotatably receiving therein the other end of said pivot shaft.

7. An engine starting device according to claim 1, further including a torque limiter assembled on said output shaft of said self-starting motor for protecting said self-starting motor against overload, said torque limiter being designed to automatically slip at a predetermined torque.

8. An engine starting device according to claim 7, wherein said torque limiter comprises an inner race rotatably mounted on said output shaft of said self-starting motor, a plurality of lock pins partly received in a plurality of axial grooves, respectively, formed in an outer circumferential surface of said inner race, a bias member for urging said lock pins into said axial grooves, and an outer race concentric to said inner race and firmly connected to said output shaft of said self-starting motor, said outer race having a plurality of axial grooves formed in an inner circumferential surface thereof for receiving respectively therein at least a part of said locking pins, said axial grooves of said outer race having a depth large enough to fully accommodate therein said lock pins.

9. An engine starting device according to claim 8, wherein said axial grooves of said inner race have a generally V-shaped cross section, and said axial grooves of said outer race have a generally U-shaped cross section.

10. An engine starting device according to claim 8, wherein said bias member is a resilient ring wound around said lock pins and resiliently urging the lock pins in a radial inward direction.

11. An engine starting device according to claim 10, wherein said lock pins each have a circumferentially grooved central portion, and said resilient ring is partly received in the respective circumferentially grooved central portions of said lock pins.

12. An engine starting device according to claim 11, wherein said outer race further has a circumferential groove formed in said inner circumferential surface thereof for receiving therein part of said resilient ring.

13. An engine starting device according to claim 10, wherein said resilient ring comprises a coiled ring spring.

14. An engine starting device according to claim 1, further including a motor drive circuit for driving said self-starting motor, wherein said motor drive circuit includes a start switch adapted to be turned on and off to electrically connect and disconnect said self-starting motor with a source of electric power for energizing and de-energizing said self-starting motor, and a short circuit formed across terminals of said self-starting motor when said start switch is turned

off.

15. An engine starting device according to claim 14, wherein said source of electric power is an a.c. power source.

16. An engine starting device according to claim 15, wherein said self-starting motor is a d.c. motor, and said motor control circuit further includes a power circuit for converting a.c. voltage to d.c. voltage.

17. An engine starting device according to claim 15, wherein said engine starting device is incorporated in an engine installed in an engine-driven snowplow.